Joint Operational Targeting: Who's In Charge; CINC, JFACC Or JTCB?

A Monograph
by
Major Jonathan B. Hunter
Military Intelligence

School of Advanced Military Studies
United States Army Command and General Staff College
Fort Leavenworth, Kansas

Second Term AY 93-94

REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

1. AGENCY USE ONLY (Leave blank)	2. REPORT DATE	3. REPORT TYPE AND DATES COVERED
		MONOGRAPH

4. TITLE AND SUBTITLE
JOINT OPERATIONAL TARGETING: WHO'S IN CHARGE; CINC, JFACC, or JTCB?

5. FUNDING NUMBERS

6. AUTHOR(S)
MAJ. JONATHAN B. HUNTER USA

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)
School of Advanced Military Studies
ATTN: ATZL-SWV
FORT LEAVENWORTH KS 66027-6900
COMM (913) 684-3437 DSN 552-3437

8. PERFORMING ORGANIZATION REPORT NUMBER

9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)

10. SPONSORING/MONITORING AGENCY REPORT NUMBER

11. SUPPLEMENTARY NOTES

12a. DISTRIBUTION/AVAILABILITY STATEMENT
Approved for public release; Distribution Unlimited.

12b. DISTRIBUTION CODE

13. ABSTRACT (Maximum 200 words)
See Attached Abstract

14. SUBJECT TERMS	15. NUMBER OF PAGES
Targeting, JFACC, Desert Storm, Operational Fires, JTCB, ATO, CINC, Normandy Interdiction	56
	16. PRICE CODE

17. SECURITY CLASSIFICATION OF REPORT	18. SECURITY CLASSIFICATION OF THIS PAGE	19. SECURITY CLASSIFICATION OF ABSTRACT	20. LIMITATION OF ABSTRACT
UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED	UNLIMITED

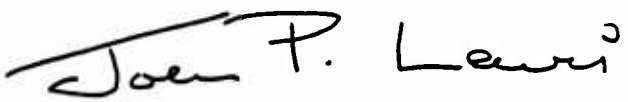
SCHOOL OF ADVANCED MILITARY STUDIES

MONOGRAPH APPROVAL

Major Jonathan B. Hunter

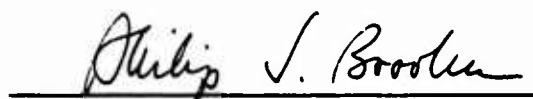
Title of Monograph: Joint Operational Targeting: Who's in Charge: CINC, JFACC, or JTCB?

Approved by:



LTC John P. Lewis, MS — Monograph Director

COL Gregory Fontenot, MA, MMAS — Director, School of Advanced Military Studies



Philip J. Brookes, Ph.D. — Director, Graduate Degree Program

Accepted this 6th day of May 1994

ABSTRACT

JOINT OPERATIONAL TARGETING: WHO'S IN CHARGE; CINC, JFACC, OR JTCB? by Major Jonathan B. Hunter, USA, 56 pages.

Operation DESERT STORM proved the criticality of effective joint operational targeting. Over three years later Joint Doctrine is still vague on this subject, and heated debate continues between the Services over which element in the theater should be responsible for this complex task. The arguments revolve around the proper targeting roles of the CINC, the Joint Forces Air Component Commander (JFACC), and the Joint Target Coordination Board (JTCB). This monograph examines this complex issue to determine if joint operational targeting can be integrated within a single organization.

The monograph first reviews current Joint Doctrine applicable to operational targeting. Historical case studies are examined to determine operational targeting processes employed by U.S. Forces over the last fifty years. Based on current doctrine and historical evidence, the three elements in question, the CINC, JFACC, and JTCB, are analyzed to determine their suitability based on command authority, impact on unity of effort, versatility, and force application planning capability.

This monograph concludes that although the CINC and JTCB play critical roles, the JFACC should be the proponent for operational targeting within the theater. Additionally the monograph recommends additional control over non-airpower assets be given to the JFACC, including tasking authority over all components of the operational fires system to include Army long range artillery systems and special operations forces.

TABLE OF CONTENTS

> **"Separate ground, sea, and air warfare is gone forever. If ever again we should be involved in war, we will fight it in all elements, with all services, as one single concentrated effort."[1]**

INTRODUCTION

Since the earliest days of warfare effective targeting has been essential to success on the battlefield. Targeting takes on an even more vital role in modern warfare where the variety of weapon systems and precision strike capability place tremendous demands on the targeting system. Targeting is today defined by Joint Doctrine as "the process of selecting targets and matching the appropriate response to them, taking account of operational requirements and capabilities."[2]

At the theater level, operational targeting effectiveness is essential for successful prosecution of an operational campaign. The purpose of fires at the operational level is to achieve "major or decisive implications for campaigns or major operations."[3] These fires are planned top down, involving weapon systems of all service components.

The targeting effort supporting these fires must be an integrated effort, insuring the "synchronization of land, air, and sea efforts into a cohesive and synergistic whole; joint in nature."[4] The design of this inherently joint process must insure maximum efficiency and operational effectiveness. Despite the long recognized criticality of an effective joint operational

targeting process, joint doctrine has been wantonly void of a doctrinal solution to this complex dilemma. Considering the significance of operational fires, who is it that should have authority over its planning and execution?

Operation DESERT STORM is considered by many to be the model for successful campaign design and execution. A key lesson from DESERT STORM was the need for a mechanism to conduct effective operational targeting. However, nearly three years after the completion of DESERT STORM, there is still heated debate over which entity should be responsible for operational targeting in a theater of war.

The arguments center around three likely proponents for joint targeting. The Army argues for the operational targeting responsibility to reside within the Joint Target Coordination Board. The JTCB is "organized within the CINC's headquarters to coordinate targeting information, provide targeting guidance and priorities, and prepare and refine joint target lists. The JTCB is normally chaired by the J-3 with representatives of J-2 and other directorates and components as appropriate."[5]

The Air Force however, argues the ideal element for operational targeting responsibility is the Joint Forces Air Component Commander (JFACC), a single commander responsible for all air forces within the theater "who derives his authority from the joint force commander, and

responsibilities include, but not limited to, planning, coordination, allocation, and tasking."[6] The Air Force points out that the Air Forces Commander has traditionally been the responsible commander for operational fires since historically operational fires were delivered mainly by air assets.[7]

This heated debate is further complicated by the position that the CINC as the warfighter should be directly responsible for operational targeting. This is possible through the command authority vested in the CINC as a result of Goldwater Nichols Reorganization Act, and the warfighting authority provided him over service components under Title 10, U.S. Code,.[8]

Through the exploration of three historical campaigns coupled with a review of current joint doctrine, perhaps a greater understanding can be gained to identify if in fact there is a single entity with the command authority, control mechanisms, and organizational capabilities necessary to effectively conduct joint operational targeting.

II. BACKGROUND

The purpose of operational targeting is to plan and direct the application of operational fires in support of the CINC's campaign plan. Operational fires are "the application of lethal or non-lethal firepower to achieve impact on conduct of the campaign or major operation, designed to achieve a single operational objective, . . .

planned and synchronized at the operational level of command."[9]

Operational fires are planned "top down", with objectives set by the operational commander. (Figure 1) This differs from tactical fires planning which is normally a "bottoms up" system, with initiation of fire request originating with the unit in contact with the enemy.[10] (Figure 2)

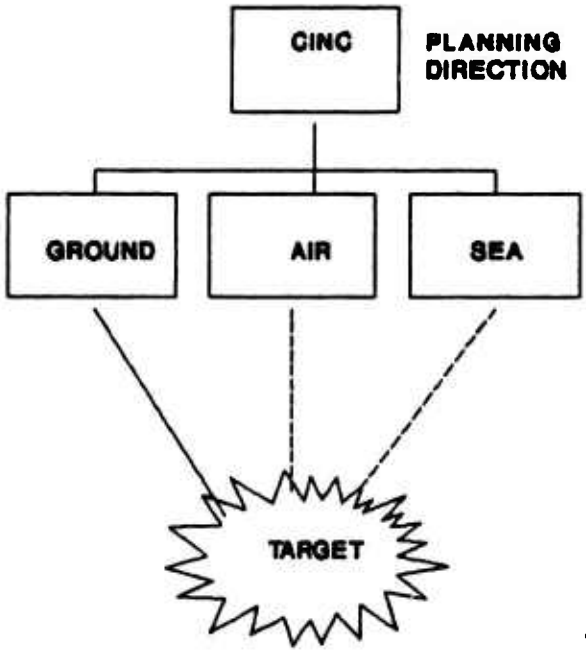


FIGURE 1

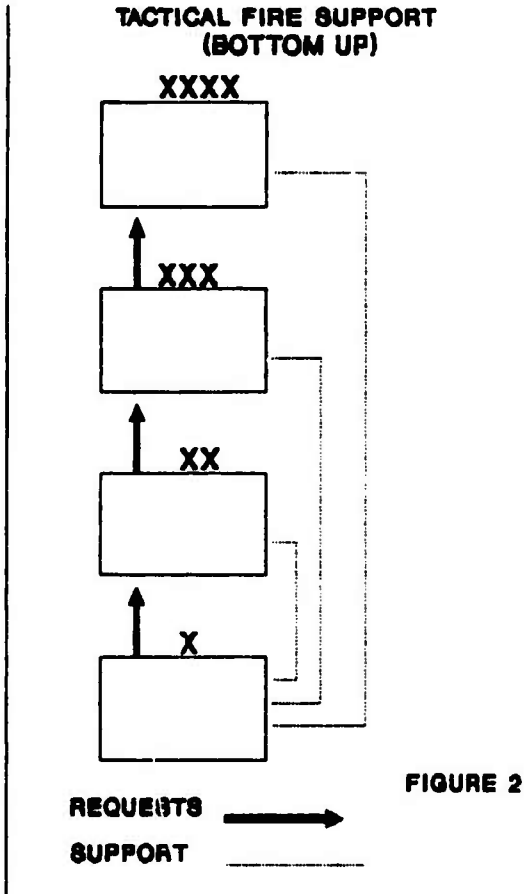


FIGURE 2

Operational fires are catagorized as; fires to facilitate maneuver, fires to isolate the battlefield,

and fires to destroy critical functions and facilities.[11] Each of these categories of operational fires consists of both lethal and nonlethal means.

These means are truly joint in nature. They include the following lethal systems: fighter aircraft, bombers, rotary wing attack aviation, naval gunfire, Tomahawk Land Attack Missiles (TLAMs), Special Operations Forces, surface artillery systems to include Multiple Launch Rocket Systems (MLRS) and the Army Tactical Missile Systems (ATACMS); and nonlethal systems such as electronic warfare, and psychological operations.[12]

The essence of the targeting process at the operational level is to match the objectives and guidance of the Joint Force Commander (JFC) to the appropriate lethal or nonlethal weapon system best suited to achieve the objective.[13] The functions of the targeting process are discussed in several Joint Publications, yet there is no specified method to accomplish this process.

Joint Pub 3-0: Doctrine for Joint Operations is the keystone document of the joint operations series and provides military guidance for the exercise of authority by combatant commanders.[14] This manual sets the stage for arguments over operational targeting responsibilities since it provides broad guidance to the commander but is not directive, allowing flexibility in any given situation. Joint Pub 3 gives the combatant commander authority to "organize and employ commands and forces,

assign tasks, designate objectives, and direct military operations."[15]

The Joint Force Commander is also given authority to "assign missions, redirect efforts and direct coordination among subordinate commanders.[16] Additionally Joint Pub 3, empowers the Joint Force Commander to "establish functional components to provide centralized direction and control of certain functions and operations when it is feasible and necessary to fix responsibility for certain normal continuing functions."[17] This broad authority supports the Joint Force Commander in giving the targeting function to a Joint Target Coordination Board, or to the Joint Forces Air Component Commander, or dividing the function among both.

Joint Pub 3 is also the first of the operational series publications to discuss the Joint Target Coordination Board (JTCB), stating the Joint Force Commander "typically organizes a JTCB, which may be an integrating center for the targeting effort, or a JFC-level review mechanism." and further allowing "the JFC defines the role of the JTCB."[18] The designated roles of the JCTB include:

- coordinate target information
- provide targeting guidance and priorities
- prepare and refine the Joint Target List (JTL)
- monitor targeting effectiveness
- coordinate/deconflict all JTF targeting efforts
- validate no-fire areas
- approve new target nominations for JTL.[19]

Bolstering the argument favoring the JTCB as the primary agent for targeting within the theater is Joint Pub 3-03 which explains that "whoever is designated the execution planning authority for targeting within a theater must possess sufficient command and control. . . and availability of joint planning expertise. The JTCB has proven an effective mechanism to facilitate this."[20]

A second organization given a doctrinal role in the operational targeting process is the JFACC. Operation DESERT STORM was the first major conflict in which a JFACC was utilized.[21] As a result of the perceived successes of the JFACC, doctrine since 1991 has placed an increased emphasis on the role of the JFACC in the targeting process. The mission of the JFACC according to Joint Pub 1-02 is planning, coordination, allocation and tasking of air assets based on the JFC's apportionment decision.[22] However, the JFACC is given a much broader mission by other joint doctrinal manuals. This stems from a difference in terms of reference.

Operational fires, while a recognized element of campaign design, does not appear in Joint Pub 3 or in the Department of Defense Dictionary, what we do find is the term interdiction. Interdiction is defined as "an action to divert, disrupt, delay, or destroy the enemy's surface military potential before it can be used effectively against friendly forces."[23]

By definition interdiction is a part of operational

fires, while operational fires may include operations not defined as interdiction, i.e. an attack against industrial infrastructure. Joint Pub 3-03 states that "since air forces most often possess the superior capability to execute interdiction, such a commander may be designated the JFACC and assigned responsibility to conduct detailed planning and coordination of the overall interdiction effort."[24] This is part of the basis of the argument for the JFACC having a major role in the targeting process; since the JFACC is the Joint Interdiction Commander and interdiction and operational fires are basically the same. In fact, the second draft of "Joint Pub 3-56.1" calls the JFACC the supported commander for the theater interdiction mission.[25] Given this broad mission and the increased need for coordination between any weapon system utilizing airspace, (even special operations forces during aerial flight), the JFACC argument appears to have merit.

Considering the significant importance of operational fires to our success on the modern battlefield, we cannot afford to give ambiguous guidance to the Joint Force Commander. He is given authority to assign the targeting mission as he deems appropriate. Doctrine specifies both the JTCB and the JFACC as the appropriate agency to conduct operational targeting. The similarities between interdiction and operational fires further complicate this issue. However, this is not just

a problem of the 1990s. Operational commanders since World War II have had to face the complex task of operational targeting involving joint forces.

SECTION III: HISTORICAL CASE STUDIES

WORLD WAR II: OVERLORD

Operation OVERLORD, the Allied invasion of Normandy, is considered the greatest amphibious operation in history, and the decisive western battle of the Second World War.[26] It was a classic joint campaign which demonstrated the reemergence of operational art by American and British military planners.

A critical component of the campaign design for the Normandy invasion was the plan for operational fires in support of the campaign. These operational fires which attacked the German defenses and facilitated allied operational maneuver were instrumental in the success of OVERLORD. Fifty years later, the process used to develop the operational fires in support of OVERLORD offers many parallels to modern targeting within a theater of operations.

The components of operational fires during OVERLORD consisted primarily of Aviation assets of the Army Air Corps and the Royal Air Force. These aircraft were the only systems with the range to conduct operational fires in support of the campaign prior to the invasion. Commando units, for example the British who seized Pegasus Bridge, may be considered a component of

operational fires similar to our Special Operations Forces, but their effect was primarily tactical, and not operationally significant.[27]

In support of OVERLORD, the operational fires portion of the campaign had a specific overall objective. This was to "reduce the enemy's air combat strength, specifically his air fighter strength" and "providing maximum possible assistance on the ground preparatory to actual assault. . . particularly affecting the enemy's movements and troop concentrations."[28]

To achieve this operational objective General Eisenhower as the Supreme Allied Commander and the operational commander for OVERLORD, had in fact four air components in the operational fires process. There were two strategic air components, the United States Strategic Air Forces in Europe (USSTAF), and RAF Bomber Command, each comprising the long range bomber forces of its representative services.[29] These strategic forces would be used as operational forces in preparation for the invasion. Two tactical air components also existed, although these were consolidated under the Allied Expeditionary Air Force (AEAF).[30]

The operational dilemma facing General Eisenhower was mainly over the role of the strategic bomber forces in the preparation for OVERLORD. Should the bomber forces remain engaged in the strategic bombing campaign against Germany, OPERATION POINTBLANK, or be committed in

an operational role in support of OVERLORD?[31]

Here we see a parallel to DESERT STORM, in that this strategic air campaign was believed by many to be capable of bringing Germany to the negotiating table if allowed to continue. General Eisenhower however, realized for OVERLORD to be successful the strategic campaign would have to yield to targeting the bombers against operational targets in support of the Normandy invasion. This decision was made not by the theater commander General Eisenhower, but by the Chiefs of Staff in Washington and London who gave him direction over the bomber forces in preparation for OVERLORD.[32]

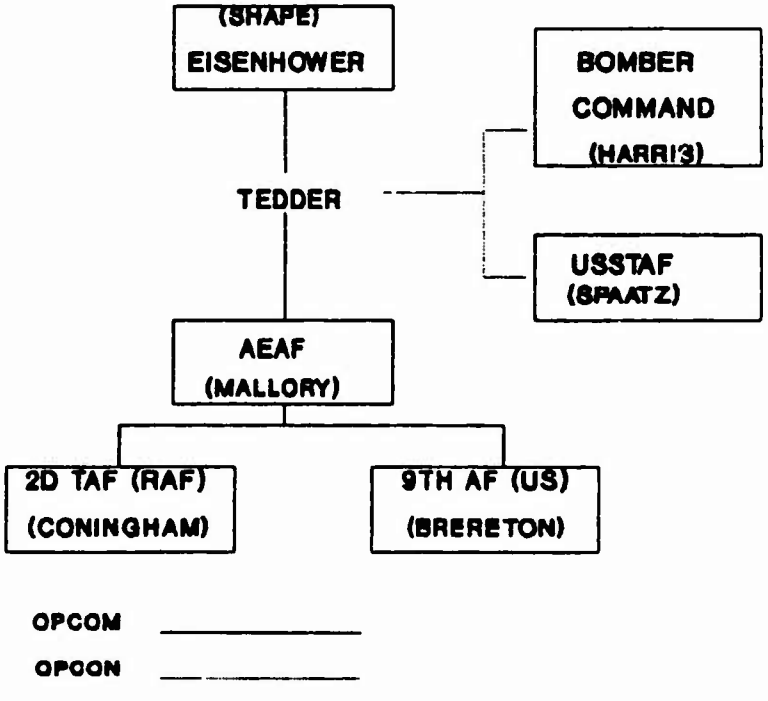
It should be noted that once assuming control of the bomber forces, General Eisenhower did not totally stop the strategic bombing offensive, those bombers not tasked with operational targets in support of OVERLORD continued to prosecute the strategic campaign, which itself had operational advantages in tying down the Luftwaffe to defend key areas of Germany. In essence the Allies were conducting "Parallel War" which is being advocated by current Air Force doctrine.[33]

The command relationships of these forces in the campaign are significant. General Eisenhower in fact did not have command, but operational control over all air components. Operational Command over the strategic bombing forces was retained by the Combined Chiefs of Staff.

General Eisenhower used two subordinate commanders to prosecute the operational and tactical air operations. Air Marshall Leigh-Mallory was the Air Commander for the invasion, with direct command over the tactical air forces. The bomber forces in concept were supposed to respond to orders of Air Marshall Leigh Mallory, the JFACC equivalent. However, due to personality conflicts and competency questions, General Eisenhower placed Deputy Supreme Commander Air Marshall Sir Arthur Tedder as a conduit between Air Marshall Leigh Mallory and the Bomber Commands.[34] Therefore the Deputy Supreme Allied Commander became the "coordinator" for the bombing forces, thus directly involved in the operational fires chain of command. (Figure 3)[35]

(FIGURE 3)

AIR COMPONENT COMMAND RELATIONSHIPS



The second operational dilemma facing Eisenhower was over the actual targeting of the bombing forces in support of OVERLORD. Two separate targeting strategies were presented, each argued as the appropriate method to ensure setting the conditions for OVERLORD.

Lieutenant General Carl Spaatz, commander of the American bombing forces was the proponent for the "Oil Plan". This plan called for utilizing the strategic bombers in support of OVERLORD to attack Germany's petroleum supplies and capabilities.[36] He argued that by attacking oil sources, Germany's aircraft would be grounded, and German units would be unable to move in reaction to the Normandy invasion. Both results would satisfy General Eisenhower's overall intent for the operational fires portion of the campaign plan.

Opposing Spaatz's strategy was a targeting strategy championed by Air Marshall Leigh-Mallory, supported by the Air Ministry, known as the "Transportation Plan." The Transportation Plan called for air attacks against railroads, primarily railyards, lines, and bridges in France and Belgium.[37] These attacks would render German forces, including reinforcements and logistics, incapable of rapid movement in response to the Allied invasion.

After heated debate, General Eisenhower with concurrence of the Combined Chiefs of Staff, approved the Transportation Plan as most suitable to set the conditions for OVERLORD, believing that the "Oil Plan"

could not produce the required results in the limited time prior to the invasion date.[38] This decision to attack rail targets created a very complicated operational targeting process in support of OVERLORD, not dissimilar with situations facing modern commanders.

The actual process of targeting operational fires in support of OVERLORD was time intensive and involved both military and political control. Once the "Transportation Plan" was approved the actual targeting process involved the Combined Chiefs of Staff, the British Air Ministry, SHAPE, and the Prime Minister Winston Churchill.[39]

The Combined Chiefs of Staff provided overall guidance to General Eisenhower throughout the operation. The actual translation of target guidance from General Eisenhower to specific targets was accomplished by the British Air Ministry. Of note, Air Marshall Sir Charles Portal, British air representative to the Combined Chiefs of Staff, was the Chief of the British Air Staff, which acted as the air planning staff for Eisenhower's headquarters. Evidence of this is shown by the directive dated 17 April 1944, from Eisenhower to the U.S.S.T.A.F and Bomber Command assigning them missions in support of OVERLORD. The directive assigned operational objectives and informed the commands that:

> **"The list of targets best calculated to achieve the primary objective will be passed to the Supreme Commander by the Air Ministry. The list of targets chosen to achieve the secondary objective and the relative priorities accorded them at present will be issued separately"[40]**

Thus one of General Eisenhower's superiors, Air Marshall Portal as a member of the Combined Chiefs of Staff had a role in the actual selection of operational targets in support of OVERLORD, since he also directed the British Air Staff.

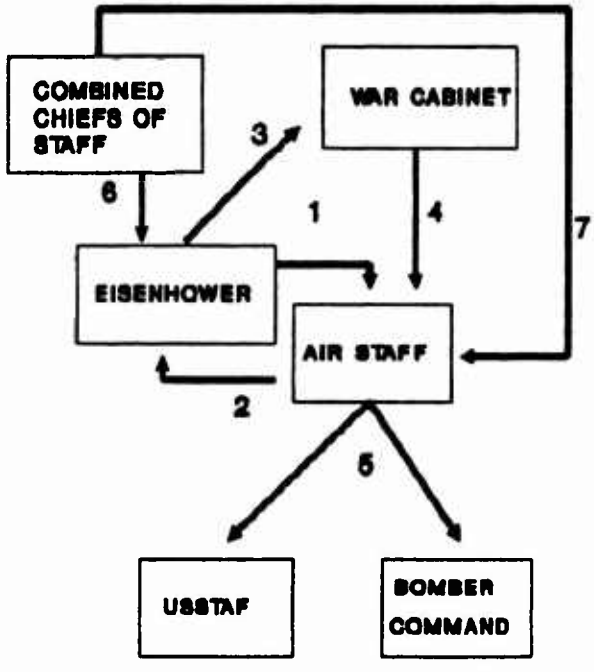
Additionally, there was extensive political involvement that would affect the targeting process as well. Prime Minister Churchill never fully supported the "Transportation Plan" out of fear that the loss in civilian lives would be too great a political price for military gains. Based on this fear, he initially required each specific target be cleared by the British War Cabinet.[41] This severely hindered General Eisenhower's efforts, with only 14 of the initial 27 targets being approved.[42] Eventually Winston Churchill gave in to pressure from General Eisenhower and President Roosevelt, allowing Eisenhower a free hand in targeting as long as civilian casualties remained under 10,000 total.[43]

Once a target list had been developed by the air staff, approved by Eisenhower, reviewed and approved by the War Cabinet, it was then forwarded to the bombing commands who were the executors. Their role in the targeting process was limited to actual execution planning; developing plans to actually destroy the targets selected by higher headquarters.

Targeting of operational fires in support of

OVERLORD was a complex process. General Eisenhower was given Operational Control of bombing forces to conduct operational fires approved by the Combined Chiefs of Staff, who maintained operational command. Eisenhower selected one of two strategies proposed by his component air commands. This guidance was forwarded to the Air Ministry, his de facto air staff for target development. The resultant target list was first approved by General Eisenhower and then forwarded to the British War Cabinet for review and final approval. Upon approval the target list was sent to either the U.S.S.T.A.F or Bomber Command for execution planning. (Figure 4)

OPERATIONAL TARGET DEVELOPMENT FOR OVERLORD



1. TGT GUIDANCE
2. TARGET LIST
3. POLITICAL REVIEW
4. APPROVED TGT LIST
5. TASKING TO COMPONENTS

(OUTSIDE INFLUENCE)

6. DIRECTION FROM CCOS
7. CONTROL OF AIR STAFF

(FIGURE 4)

While a complicated process, it proved successful, especially after Winston Churchill eliminated the War Cabinet approval requirement. It worked despite the complexity largely due to the informal cooperation and the "good sense and proper spirit of top British and American Commanders."[44]

Reviewing the process from a modern perspective General Eisenhower while somewhat equivalent of a modern CINC, did not have combatant authority over the forces required for effective operational fires in support of OVERLORD. He exercised operational control while the Combined Chiefs of Staff maintained combatant command, now vested in the modern CINC. Initially the War Cabinet also maintained approval authority for each target of the transportation plan.

Air Marshall Leigh-Mallory was in fact equal to a modern JFACC, however personality disputes led General Eisenhower to place Tedder as his deputy between Leigh Mallory and the Bomber Commands of Generals Harris and Spaatz, depriving the JFACC of actual command or control of the assets involved in operational fires, often negatively affecting unity of effort.

The air staff while performing the air targeting functions of General Eisenhower's staff, was also a staff for Air Marshall Portal, a member of the Combined Chiefs of Staff. This would be similar to a component of a CINC's staff also being part of the Joint Staff. Force

application planning was split between the air ministry who developed targets, and the bomber commands who actually fused the specific targets with the appropriate weapon systems.

There was no equivalent of the JTCB, although a major lesson from OVERLORD was the need for a more effective and representative targeting element. This would lead to the creation of the Combined Strategic Targets Committee in the fall of 1944, the first JTCB type organization, although at the strategic level of war.[45]

There were three levels of authority involved in the operational targeting process during OVERLORD. A strategic process involving General Eisenhower, the Combined Chiefs of Staff, and Winston Churchill, which focused on the political ramifications of the operational campaign. A second process was the operational process involving General Eisenhower, the Air Staff, the Combined Chiefs of Staff, and the subordinate components. The focus at this level was actually providing effective operational fires in preparation for Normandy. Finally there was a tactical level involving Eisenhower and the components.

These processes were interlinked in a complex web with a result of no single individual having full decision authority for operational targeting. In fact, operational targeting in preparation for Normandy was

decision by consensus, not a command decision.

Allied operational fires proved effective, and were key to the success of OVERLORD. However, General Eisenhower's operational fires were primarily limited to his bomber forces, therefore his targeting process proved successful despite the described inefficiencies. As warfare modernized, and weapon systems increased in range and lethality, the components of operational fires available to a CINC would become far more extensive involving various components of his force.

KOREA

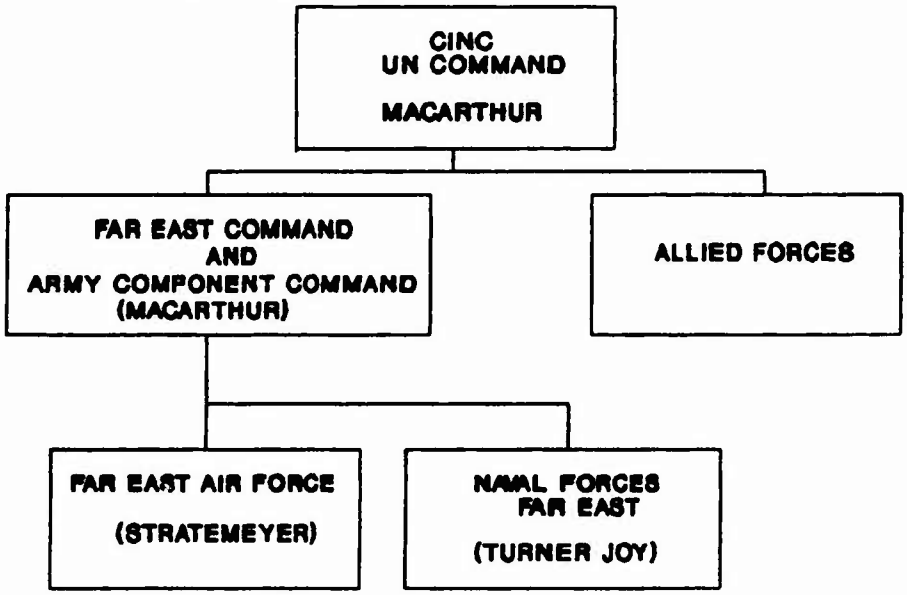
Operational targeting during the Korean War was limited. In fact an argument can be made that since air strikes were most often conducted in isolation from the ground maneuver plan, despite being successful they were not operational fires since they were not integrated into an overall campaign plan.

While there may not have been actual operational targeting, the targeting process during the Korean War is worthy for review since it was the first example of targeting which included the Air Force as a separate service. Additionally the targeting process during the Korean War demonstrates the inefficiencies of parallel targeting staffs.

Once again the command relationships play a key role in the operational targeting process. General MacArthur

was both a Unified Commander and a Allied Commander. As a Unified Commander, General MacArthur had separate Navy, and Air Force Components under his command. However General MacArthur in addition to being the Allied Commander, and the Unified Commander, maintained army component command authority for himself.[46] (Figure 5)

US COMMAND STRUCTURE - KOREA



(FIGURE 5)

The problem this caused was that his staff was now dual hatted as both the Unified Commander's Joint Staff, and as the Army Component Staff. In the area of operational targeting this placed demands far exceeding the capabilities of the staff.

There were three distinct organizations involved in parallel targeting operations within General MacArthur's Command during the Korean War. The first of these was the GHQ Targeting Group at his Far East Command (FECOM)

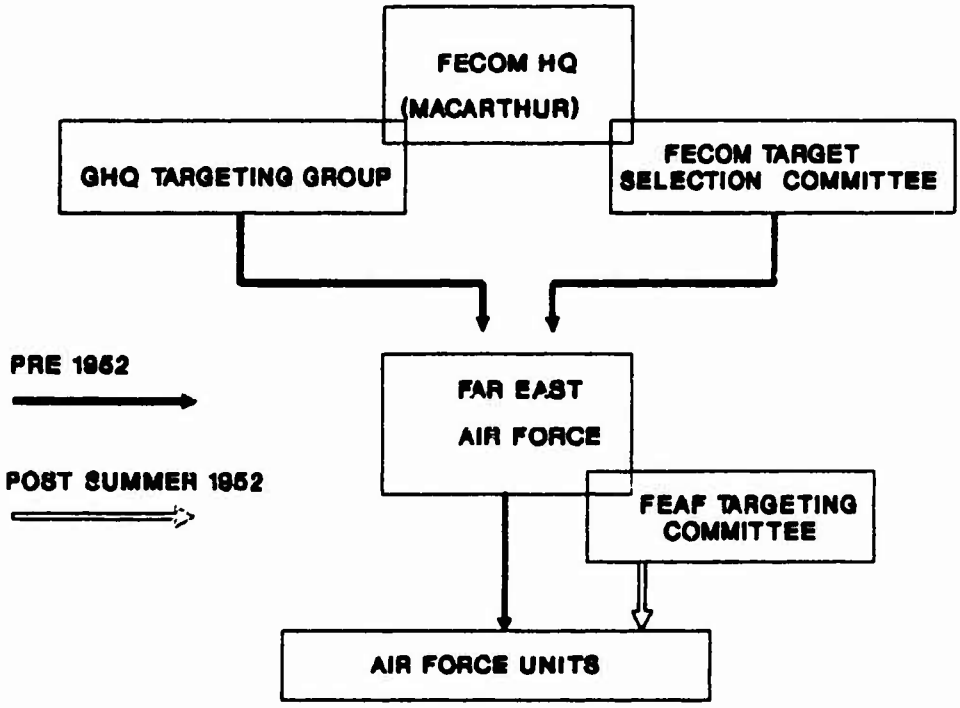
Headquarters in Tokyo.[47] This organization was tasked with operational targeting for employment of air forces within the Korean Theater. However, unlike World War II examples where functional experts performed the targeting functions, the GHQ targeting group was made up of "officers who lacked the experience and depth of knowledge for targeting an air force."[48] Most of the GHQ targeting staff were Army officers with little Air Force or Navy representation. This staff's ineffectiveness is exemplified by the fact that over 20% of the first 220 targets chosen by this committee were nonexistent.[49]

In an effort to enhance the effectiveness of General MacArthur's headquarters, an additional targeting organization was organized, the FECOM Target Selection Committee. The GHQ Target Selection Committee substantially improved the service representation problem by adding the Vice Commander of the Far East Air Force and a senior officer from Naval Forces Far East.[50] This target selection committee performed the role that is now doctrinally given to the JTCB; targeting oversight and coordination, and development of Joint Target Lists.

The third organization in the operational targeting process was within Far East Air Force (FEAF), General MacArthur's Air Force Component. At the outset of the Korean War, the FEAF commander, Lieutenant General Stratemeyer urged General MaCarthur that the FEAF should be responsible for air force targeting.[51] Despite this,

the targeting responsibility was placed at GHQ. However by 1952, the FEAF had organized a targeting committee of its own to provide effective targeting for Air Force assets. By summer 1952, the FEAF was given authority for all targeting of Air Force assets and "coordination control" over Naval Air assets.[52] Eventually most targeting was done within FEAF. Figure 6 details the targeting structure within the Korean Theater.

TARGETING FLOW -US FAR EAST COMMAND



(FIGURE 6)

In summary, three separate organizations attempted to perform the same targeting functions. The FEAF possessed the only actual targeting capability over Air Force assets, and was the only effective targeting organization. The greatest targeting lesson from Korea was the lack of any integration of air power into the ground operations plan at the operational level.

OPERATION DESERT STORM

Operation DESERT STORM is considered by many to be a textbook campaign and the model for future operations. DESERT STORM was a test case for both service and joint doctrine, and the modern technology of the American Armed forces. While DESERT STORM proved valid many of our operational concepts, one area that proved a shortfall is the concept of operational fires and the targeting process associated with it. Other than fratricide, this area has perhaps caused more interservice debate than any other in the wake of DESERT STORM. As Brigadier General Arnold, ARCENT Operations Officer reported during the war:

> "Air support-related issues continue to plague final preparations for offensive operations and raise questions concerning our ability to effectively shape the battlefield prior to initiation of the ground campaign. . . Army nominated targets are not being serviced. Efforts must be taken now to align the objectives of the air and ground campaigns, and ensure the success of our future operations."[53]

As in the planning for the Normandy Invasion,

effective operational fires were essential to insure a coalition victory in DESERT STORM. However, rather than being limited primarily to the bomber components of his command as was General Eisenhower, General Schwarzkopf as Commander in Chief Central Command, CINCCENT, had a diverse assortment of means to employ as operational fires. These included air assets of the Air Force, Navy, Marines, and Army attack aviation; long range fire systems of the Army and Navy; Special Operations Forces; and non-lethal fires such as psychological operations. The dilemma for CINCCENT was how to effectively target these capabilities to ensure unity of effort, while maximizing the capabilities of each individual system in support of the campaign objectives.

The overall objective for operational fires during DESERT STORM can be found in General Schwarzkopf's intent statement given in August as the U.S. was beginning its initial force deployment;

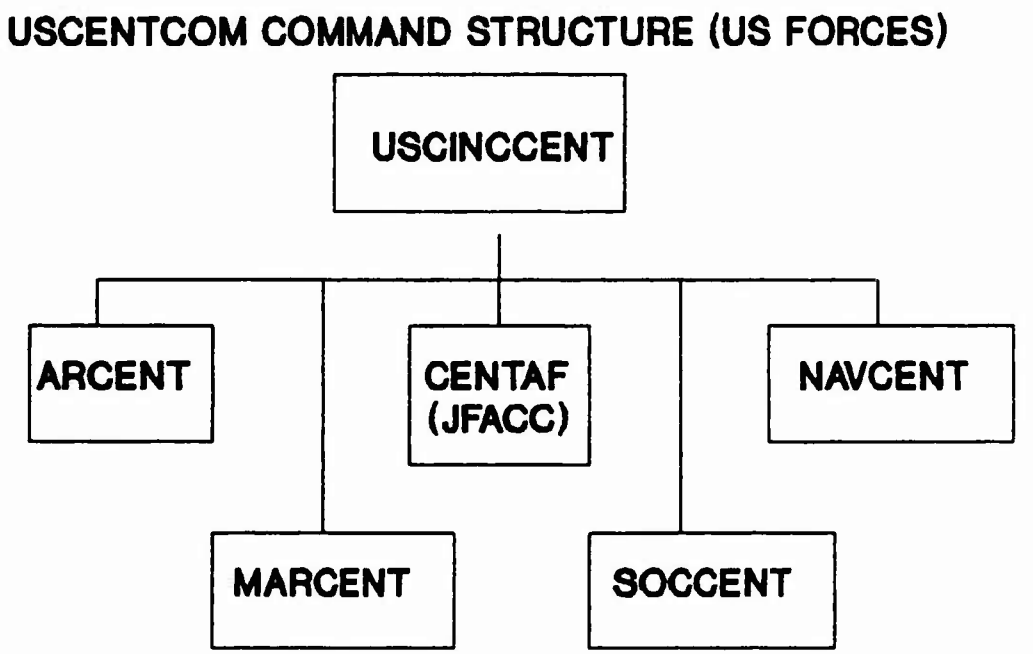
> "...We will initially attack into the Iraqi homeland using airpower to decapitate his leadership, command and control, and eliminate his ability to reinforce Iraqi forces in Kuwait and southern Iraq. We will then gain air superiority so that we can subsequently attack Iraqi ground forces with air power to reduce his combat power and destroy reinforcing units..."[54]

This intent statement shows the emphasis placed on operational fires to set the conditions for successful execution of his campaign. However, it is also evident that the focus of the CINC's operational fires was

limited to air power.

In order to analyze the operational targeting process during the Gulf War, the command relationships among the various components must be examined. This examination will be limited to U.S. forces and will not discuss the coalition command relationships except for the air forces.[55]

CINCCENT had direct operational command over five components during the Gulf War. These included Air Force Component Central Command, CENTAF; Army Component Central Command, ARCENT; Marine Component Central Command, MARCENT; Navy Component Central Command, NAVCENT, and the Special Operations Component Central Command, SOCCENT.[56] (Figure 7)



(FIGURE 7)

To refine the command and control issues among similar type forces, General Schwarzkopf was forced to deal with the often contested issue of the need for single air and ground force commanders in place of traditional service component commanders. In an effort to prevent too many layers of command, General Schwarzkopf made himself the Land Component Commander, which placed all ground forces directly under his operational control, in addition to retaining his operational command. He designated a single Air Component Commander by making the CENTAF Commander the JFACC, a historical first.[57] All air assets of the Air Force, Navy, and Marines, minus Marine close support aircraft, were thus controlled by the CENTAF Commander.

One additional organization which would play a key role in the targeting process was created by General Schwarzkopf, the Joint Target Coordination Board. The JTCB was established to fulfill its doctrinal role of assisting the Joint Force Commander in establishing priorities, providing guidance, and preparing joint target lists.[58]

A significant shortfall in operational targeting during DESERT STORM was the lack of a single targeting process for operational fires. The targeting process varied depending on which asset was involved. Airpower provided the majority of operational fires. However, SOF, long range artillery and missile fires were also

availible to complement the efforts of airpower.

To comprehend the operational targeting process for air power in DESERT STORM one must look back to early August 1990. Within a week of the Iraqi invasion a team from the Air Force planning cell known as "Checkmate" briefed CINCCENT on possible air operations against Iraq.[59] The strategy presented to General Schwarzkopf placed him in a dilemma not dissimilar to Eisenhower. While it is evident that CINCCENT always believed a ground operation would be necessary, as evidenced by his intent statement discussed earlier, the "Checkmate" plan emphasized the conduct of an Air Campaign, based on the air warfare theories of Colonel John Warden, then the Checkmate director.[60] This plan focused on strategic attacks by air power to defeat the Iraq, with only a small portion of air assets focused on targets in support of a ground operation.[61] Rather than choose an air approach or ground approach, General Schwarzkopf modified the plan to encompass both strategic attack and air interdiction in support of the anticipated ground operation.

The initial target list for DESERT STORM was taken from the Checkmate briefing and consisted of 84 targets.[62] These were developed solely by Air Force planners without input from other components. Eventually the CENTCOM staff and other components provided additional targets and by the initiation of the air

attacks, over 600 targets had been proposed.[63]

The targeting process within CENTCOM began with CINCCENT who approved the initial objectives developed by Checkmate. These became the JFACC's campaign objectives and consisted of:

> 1. Isolate and incapacitate the Iraqi regime.
> 2. Gain and maintain air superiority to permit unhindered air operations.
> 3. Destroy nuclear, biological, and chemical (NBC) warfare capability.
> 4. Eliminate Iraq's offensive military capability by destroying major parts of key military production, infrastructure, and power projection capabilities.
> 5. Render the Iraqi army and its mechanized equipment in Kuwait ineffective, causing its collapse.[64]

Of the above objectives, each can be interpreted to be classified as operational fires, except for objective four. With these objectives approved by CINCCENT, the JFACC divided these five overall objectives into the following 12 target sets.

> 1. Leadership/Command Facilities
> 2. Electrical Production Facilities
> 3. Telecommunications and Command,Control and Communications Nodes
> 4. Strategic Integrated Air Defense System
> 5. Air Forces and Airfields
> 6. NBC Research, Production, and Storage Facilities
> 7. SCUD Missiles, Launchers, Production and Storage Facilities
> 8. Naval Forces and Port Facilities
> 9. Oil refining and Distribution Facilities
> 10. Railroads and Bridges
> 11. Iraqi Army Units to include the Republican Guard in the KTO
> 12. Military Storage and Production Sites[65]

It is these 12 target sets which were prioritized as needed to ensure accomplishment of the five overall

JFACC objectives. Even with a liberal interpretation, many of these target sets do not qualify as operational fires; they are more strategic in nature. This is the first indication of a problem which surfaced in the targeting process, that the Air Force was pursuing its own objectives of an air campaign focusing on attack of strategic targets, while neglecting operational fires in support of the CINC's anticipated ground operation.

Specific target selection and force application planning during DESERT STORM was done within the theater's Tactical Air Control Center (TACC). The TACC is the senior element of the tactical air control system, and is the Air Component Commander's focal point for operational planning, intelligence, logistics, and command and control of air operations.[66] This element is in fact a component of the headquarters of the supporting Air Force, in this case CENTAF, whose commander General Horner was also the JFACC. As such the TACC was responsible for operational planning and intelligence, to include targeting, for all theater air components. It is within the TACC the theater Air Tasking Order (ATO) was produced for all CENTCOM air operations.[67] The ATO is the mechanism used to tasking aircraft for various missions including target execution.

The major debate following DESERT STORM centers around how the targets that were placed on the ATO were actually developed. Although operational fires are

planned top down, the subordinate ground commanders who will be planning and executing the ground operations in the overall campaign must have input into this targeting process. This access existed in DESERT STORM through both ARCENT and MARCENT component headquarters. The Army process will be discussed since it is representative of the MARCENT process also.

The Army's VII Corps and XVIII Airborne Corps were under command of ARCENT. Both Corps had major roles in the overall campaign, with VII Corps attacking the operational center of gravity, the Republican Guards, and XVIII Airborne Corps conducting the deep assault into Iraq. With these missions, both Corps commanders submitted operational target nominations designed to set the conditions for their success, and success of the overall campaign.[68] These nominations for air attack of specific targets went through the Corps, to ARCENT where if validated, the nomination was passed to the Air Force TACC via the Battlefield Coordination Element (BCE) an Army element within the TACC designed to coordinate joint combat operations.[69] A specific mission of the BCE during DESERT STORM was the exchange of operational and intelligence data, especially target data.[70]

Here the command relationships affected the operational targeting process. Doctrinally, according to TRADOC PAM 525-45, the BCE works for the Land Component Commander, which was expected to be ARCENT. When the

CINC maintained the Land Component Command authority, there was no longer a single ground component input into the targeting process, rather input came through both the BCE reflecting the Army's desires, and through the CINC, often with different priorities.[71] However it is the JFACC, through the TACC, that actually approves and prioritizes the target and authorizes target execution. To this day, many Army leaders feel that their nominations were not executed due to the JFACC's focus on an air campaign.[72]

At this point the JTCB plays a critical role. The doctrinal role of this board is mainly oversight for the Joint Force Commander. However, the first meeting of the JTCB did not occur until 10 days after offensive operations against Iraq began.[73] By this time target categories and priorities had already been approved by the CINC, based on the initial "Checkmate" plan.

Since the JTCB was comprised of representatives of each component, the Army anticipated this would be the mechanism that would insure that Army operational requirements would be met, and that this board would have a "control" function. However, the CINC did not meet with the JTCB and during the initial Air Operations met directly with General Horner, the JFACC, daily to discuss target priorities and specific targets. During these meetings the CINC often became personally involved in making specific changes to target selections

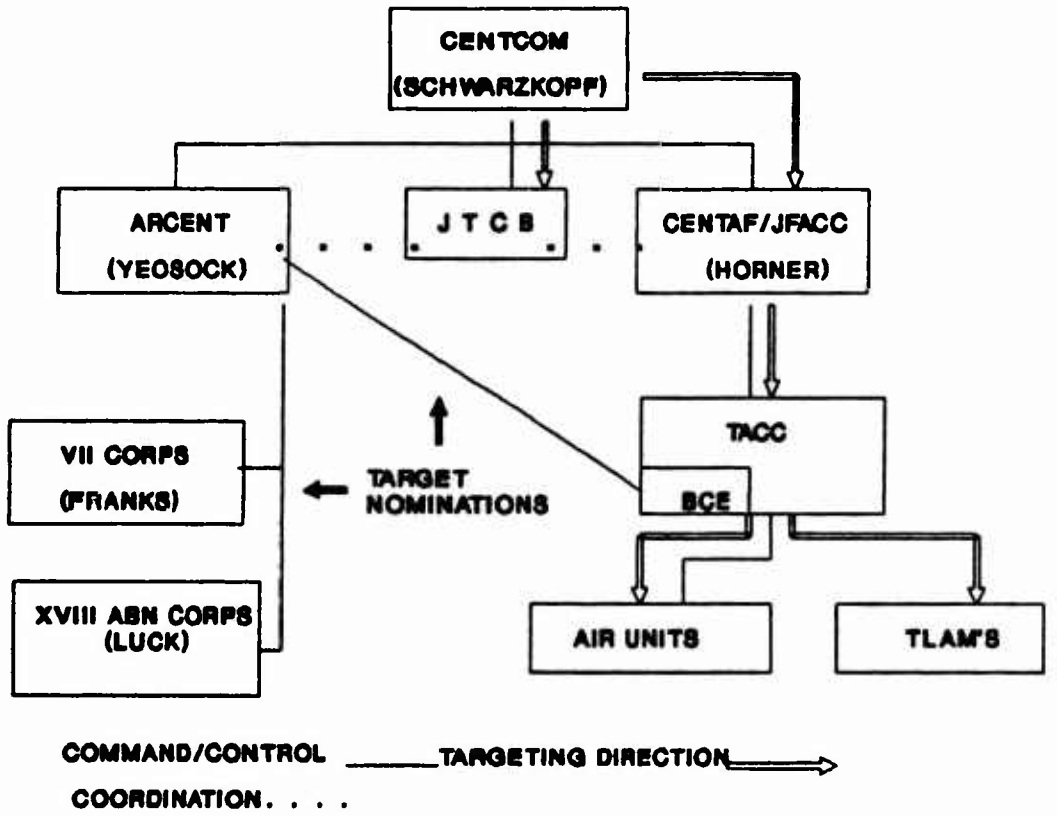
complicating the targeting process, and often pulling resources from approved Army targets.[74] At this point, the JCTB was virtually an impotent organization with no actual influence over the targeting process.

The role of the JTCB changed substantially later in the campaign immediately prior to the ground war. In early February, following repeated ARCENT appeals, the CINC appointed the DCINC, Army General Waller to head the JTCB.[75] From this point forward the JTCB took a more active role in the targeting process, actually directing that certain targets be included in the ATO. This control authority given to the JTCB in DESERT STORM is the basis of argument today with the Army advocating this be a doctrinal mission for the JTCB, while the Air Force guards its control of the targeting process arguing against any outside control over an operational commander's perceived functional responsibility.[76]

The operational targeting process for air assets during DESERT STORM was as follows. The Air Force planning cell "Checkmate" developed the original operational plan. This was modified by the CINC and the targeting, force application planning, and execution responsibility given to the JFACC. The JFACC exercised this authority through the TACC. Component input into the targeting process was through their service component headquarters. In the case of the Army this was done via the BCE within the TACC, and through the JTCB which later

in the campaign approved Army nominations, and directed the JFACC to service them. (Figure 8)

CENTCOM TARGETING FLOW (FIGURE 8)



Additionally, throughout the entire campaign the CINC was personally involved in the process even to the point of adding or deleting targets himself at the last minute.[77] This was done in direct meetings between the CINC and JFACC.

CINCCENT had more assets to provide operational fires than aircraft. The lack of incorporation of these assets into the operational fires proved a shortfall in the DESERT STORM campaign design. The JFACC was given tasking authority over the Tomahawk Land Attack Missiles

(TLAMs) of the Navy. These systems were in fact added to the theater ATO. However, the long range artillery systems of the Army, specifically the Army Tactical Missile System (ATACMS), were not incorporated as operational fire systems.

Only once was ATACMS fired as an operational fire under theater control. On 18 January an ATACMS was launched against an SA-2 site in a Joint Suppression of Enemy Air Defense (JSEAD) mission. While this demonstrated the utility of ATACMS as operational fires, the Air Force remained reluctant to utilize ATACMS due to perceived airspace clearance problems, and accepted the ATACMS support only at the urging of the Army BCE within the TACC.[78] This is the only instance where ATACMS was used in a role other than general support to corps operations.

Although a theater asset, Special Operations Forces (SOF) were not targeted "top down" in accordance with doctrine for operational fires. The guidance from CINCCENT to COMSOCCENT, Colonel Jessie Johnson, was to develop targets, executable by SOF, that would support the overall campaign plan. Within SOCCENT a targeting board was conducted with representatives of the Army, Navy, and Air Force SOF components. Targets would be nominated, developed, and analyzed for feasibility. Once a target was fully developed within SOCCENT it would be briefed to CINCCENT. Although several operational level

direct action targets were developed, the only one approved and executed was the use of Navy Seals as a deception to convince the Iraqi's of an Amphibious landing along the Kuwaiti Coast during the initiation of the ground operation.[79]

Like OVERLORD, DESERT STORM was a successful application of operational fires in spite of a less than optimal operational targeting process. Operational targeting during DESERT STORM was effective, perhaps even decisive. However, despite the successes, the integration of the operational fire systems of the various components into the overall campaign design was disjointed. There was no single organization conducting joint operational targeting within CENTCOM. As in Korea, and Overlord, operational fires consisted primarily of airpower. As in Korea the air component headquarters, in this case the JFACC, conducted the most effective targeting. As in the previous cases, DESERT STORM again saw heated debate between component commanders over targeting priorities, this time between the Army and Air Force over targeting priorities.

IV. ANALYSIS

The case studies reveal that as of yet we have not fully integrated the capabilities of each service into a theater commander's scheme for operational fires. This appears to be because as of yet, we do not have an operational targeting process capable of facilitating

such a complex task. However, the case studies reveal that such a capability can exist.

The historical evidence shows that no single organization has ever possessed, nor today doctrinally possesses the command authority required over all components of the operational targeting system. Command is defined as the authority of the organization or individual to perform the functions of command over forces involved in the targeting process. This authority includes assigning tasks, designating objectives, and giving authoritative direction.[80]

Additionally unity of effort is essential to effective operational targeting. Unity of effort during OVERLORD was remarkable, even though facilitated often by informal agreements. However during DESERT STORM unity of effort in operational targeting was a problem.

The ability to conduct force application planning, the matching of a target with the appropriate weapon and delivery system to service the target is the heart of targeting. It is essential the element responsible for operational targeting have the ability to accomplish this task.

In todays rapidly changing world the military finds itself committed in a variety of combat situations, from peace enforcement to a major regional contingency. Therefore an effective operational targeting process must be versatile, allowing it to function effectively in any

combat situation.

Looking first at the argument that the CINC should be responsible for and personally involved in operational targeting, there are some merits to this premise. General Schwarzkopf was the first commander in the historical case studies to have the statutory command authority required to fully incorporate all the components of the operational fires system into an integrated whole. Today every regional CINC possess the command authority, by virtue of Title 10, U.S. Code. However, application of this authority has proven difficult in some cases. Even General Schwarzkopf during DESERT STORM did not bring in all the elements of the operational fires system into an integrated whole, under his operational command.

The CINC would appear able to ensure unity of effort. General Eisenhower did this masterfully during OVERLORD, without "combatant command" authority. However, General MacArthur was unable to ensure unity of effort in every case between the Air Force and ground forces. More recently, General Schwarzkopf failed to insure unity of effort in operational targeting. The heated disputes between the Army and Air Force over the application of airpower are evidence to this. The CINC, with the current doctrinal targeting process, does not have the appropriate mechanisms to ensure unity of effort throughout the targeting process.

The premise that the CINC should be personally involved in the targeting process also overlooks the force application planning function. The CINC does not have the assets to do this detailed planning, even with his staff as it is currently organized. In each of the historical examples, the CINC set priorities, and in some cases target categories, leaving the detailed targeting functions to subordinate components.

The versatility of the CINC is evident. In any situation from peacekeeping to a major regional contingency, Joint Doctrine calls for a Joint Force Commander. In each contingency this commander must be concerned with how to conduct effective joint operational targeting.

The second argument supports the JTCB being responsible for operational targeting within a theater. However, the JTCB was designed as a coordination element, and is only capable of "decision by consensus" type operations as it is currently structured. Doctrinally it possesses no command authority. As such, it is very limited in its role within the operational targeting process. Doctrinally, this board only exists if the Joint Force Commander chooses to establish it. The attempts by the JTCB to exert authority over the targeting process, as evidenced during the later stages of DESERT STORM created additional friction within the targeting process.

A major strongpoint of the JTCB is its capability to insure unity of effort throughout the targeting process. Although this failed in many cases during DESERT STORM, with the proper command structure, the JTCB can be a very effective oversight mechanism for the CINC. Specifically, the JTCB provides oversight of operational targeting throughout the theater, insuring the CINC's priorities are met. By monitoring the targeting process from selection to execution, especially comparing target assessment to goals, it facilitates unity of effort. Where disconnects occur, raises these issues until the matter is resolved. This is the doctrinal role of the JTCB.

Like the CINC, the JTCB lacks the personnel, and functional expertise to conduct force application planning. Again it is doctrinally designed to perform an oversight responsibility, not a functional targeting role.

The JTCB is versatile. As it is doctrinally organized, it may be established by any Joint Force Commander and conceivably in any type scenario where operational targeting is appropriate.

Despite some current shortfalls, the JFACC and its associated headquarters, is potentially the most appropriate organization to be responsible for operational targeting. The JFACC himself is a component commander, and has command over all air assets within a

theater except Marine close air, and Army aviation. In each historical example, a de facto JFACC was necessary and existed for the application of airpower. Current doctrine calls for the establishment of a JFACC in future conflicts. The shortfall of the JFACC is that it currently has no command authority over the operational fires systems other than aircraft, i.e., SOF, ATACMS, TLAMs etc. The TACON arrangements over TLAM's during DESERT STORM is representative of the command arrangements that can be made to facilitate effective command over all the components of the operational fires system by the JFACC.

THe JFACC's ability to insure unity of effort is today limited by the lack of command over the non-airpower assets of other services. With this problem solved, and the JTCB fulfilling its functional oversight role, the JFACC could enhance unity of effort. A single commander responsible for all operational targeting from selection to execution in support of the overall campaign plan would seem to create unity of effort.

Some argued DESERT STORM proved the JFACC will pursue its own agenda at the expense of the ground components.[81] However, if operational fires in DESERT STORM were planned "top down" with priorities set by the CINC, and the CINC personally discussed targeting daily with the JFACC, the argument can be made that the JFACC did not disrupt unity of effort. Perhaps the Army's

focus on the ground operation distracted their view of operational fires in support of the overall theater plan. The CINC determines priorities, not subordinate component commanders.

As to the functional expertise to conduct force application planning, the JFACC is the only headquarters with the ability to do this. The force application planning for operational fires has historically been resident in the air component headquarters. The shortfall again is the functional expertise over the non-airpower components of the operational fires system.

The JFACC is as versatile as the JTCB in its application. Joint Doctrine today states there are two types theater campaigns; continental and maritime.[82] With either the Air Force or Navy possessing the capability to be the JFACC, the versatility is evident.

CONCLUSIONS AND RECOMMENDATIONS

Both doctrine and the organizational design for operational targeting within a theater have shortfalls. Warfare has modernized to a level where a systemic integration of all components involved in operational fires and the associated targeting process must be accomplished.[83] Additionally the speed of warfare will increase to levels where current targeting processes will be unable to successfully support the campaign. Operational targeting in future war will require a real

time joint precision strike capability.

These problems are not unsurmountable, and can be solved by adapting our lessons learned from the historical analysis. First, the CINC must be the primary designer of operational fires in support of a campaign. Through his staff planning process, especially the J-3 and J-2 portions, general target categories are identified that can have major impacts on the campaign. The CINC establishes the general concept for operational fires, and sets the priorities. Through commander's guidance, especially his intent, the CINC sets the objectives and parameters of operational fires in support of the campaign. However, with the tempo and complexities of modern war, no longer can the operational targeting function be effectively accomplished at this level.

Second, the JFACC and its associated component headquarters should be the responsible organization for operational targeting within a theater, and given control authority over the operational fires system of each service component. The JFACC is the only organization within a theater which has the organizational capabilities to translate the CINC's guidance and priorities into specific targets and weapon packages. Joint doctrine already designates the Air Component Commander as the theater interdiction commander. Operational fires and interdiction are in many cases

synonymous, and require the same functional expertise to accomplish.

Although the JFACC with his associated component headquarters possesses the functional expertise to accomplish the targeting process from target development to execution, additional joint manning is required to give the JFACC the capability to effectively target the operational fire systems of other components. This could be done by adding elements similar to the Army's BCE, and expanding their role from coordination to include actual targeting and controlling functions.

Third, the JFACC, as the integrator of all theater operational fires systems must be able to bring ATACMS, MLRS, TLAMs, SOF, Psychological Operations, and other systems to bear on the enemy, quickly and effectively in an operational fire role. This requires the CINC to establish tasking authority for the JFACC over operational fires systems of other service components. Currently joint automated targeting systems are being developed which can satisfy this requirement.

Fourth, since many components of the operational fires system also have a tactical role, i.e. ATACMS and Apache Helicopters, the CINC should apportion these resources as he apportions air assets with multiple capabilities. For example, during initial phases of a campaign, ATACMS can be apportioned with the majority falling under TACON of the JFACC for operational fire

missions. As the campaign continues a greater number of missions would revert to Corps control for tactical support. This apportionment is necessary to allow the CINC maximum flexibility in the application of operational fires in support of his overall campaign.

Finally, with the anticipated tempo of future conflict, the current target nomination system will not be effective. Selection of specific targets 72 hours in advance proved difficult during DESERT STORM and led to much controversy. The ground components when submitting operational target requests that support the overall campaign should use mission type requests rather than specific target requests[84]. For example rather than requesting destruction of a specific target, at a specific location and time, a mission to delay the arrival of the second echelon force for 36 hours would be more appropriate. This would allow maximum flexibility for the employment of operational fires, and most importantly, would clearly convey intent of the requesting commanders.

These recommendations will work only when the CINC fully enforces his guidance over the operational targeting process. This should be the primary responsibility for the JTCB; as an oversight mechanism to insure the CINC's concept for operational fires is being followed, and that the results are consistent with planned outcomes. When application of resources strays

from the CINC's priorities the JTCB has the responsibility to bring this to the CINC's attention.

The complexity and speed of modern combat operations require a single commander to be given the responsibility, the resources, and the command authority to effectively conduct operational targeting from target selection to target execution. The JFACC is the best organization to do this. With command authority over all components of the operational fires system, and the addition of non-airpower force application planners, the JFACC can effectively integrate operational fires into campaign design. If operational fires proved decisive in the past, even with major operational targeting shortfalls, a holistic, systemic integration of operational targeting and fires is necessary to set the conditions for victory in the future.

NOTES

1. Dwight D. Eisenhower, quoted in AFSC Pub 2, (Norfolk: National Defense University, 1992), p. x.

2. The Joint Staff, Joint Pub 1-02: DoD Dictionary, (Washington: Joint Chiefs of Staff, 1989), ammended by JMTGMs through 003-1370-93, latest change as of 8/20/93. p. 365.

3. AFSC Pub 2, p. ii-5-D-1.

4. William W. Mendel and Floyd Banks Jr., Campaign Planning, (Carlisle: U.S. Army War College, 1988) p. 8.

5. The Joint Staff, Joint Pub 5-00.2 Joint task Force Planning, (Washington: Thhe Joint Staff, 1991) p. D-A-2.

6. Ibid., p. GL-11.

7. The debate centers mainly over the role of the Joint Target Coordination Board and the Joint Forces Air Component Commander. Air Force writers have often expressed that operational targeting responsibility be placed with the JFACC, while Army and Marine writers most often express the desire for more control over the targeting process to be placed with the battlestaff or the Joint target Coordination Board. See for example LtCol Frederick R. Strain USAF, "The New Joint Warfare" Joint Force Quarterly, (Autumn 1993), 22. and LTC William G. Welch, USA, "Observations on Joint Combat Operations at Echelons Above Corps" Field Artillery Journal, (June 1992), p 16-21.

8. Title 10, U.S. Code, Section 164 gives the CINC's Combatant Command (COCOM) authority over their assigned forces. COCOM is the authority to perform the "functions of command over assigned forces to include organizing and employing commands and forces, assigning tasks, designating objectives, and giving authoritative direction over all aspects of military operations, joint training, and logistics necessary to accomplish missions assigned to the commander" AFSC PUB 1: The Joint Staff Officers Guide, 1991, (Norfolk: Armed Forces Staff College, 1991), 2-21.

9. AFSC PUB 2, p. II-5-D-1.

10. Ibid., p. II-5-D-1.

11. Ibid., p. II-5-D-1.

12. The Joint Staff, Joint Pub 3-03: Doctrine for Joint Interdiction Operations, (Washington: THe Joint Staff, 1990), p. II-5.

13. The Joint Staff, Joint Pub 3-55: Doctrine for Reconnaissance, Surveillance, and Target Acquisition Support for Joint Operations (RSTA), (Washington: The Joint Staff, 1993), p. IV-1

14. The Joint Staff, Joint Pub 3-0: Doctrine for Joint Operations, (Washington: The Joint Staff, 1993), p.v.

15. Ibid., p. II-7.

16. Ibid., p. II-12.

17. Ibid., p. II-17.

18. Ibid., p. III-36. This is echoed in other Joint Pubs. See also The Joint Staff Joint Pub 5-00.2: Joint Task Force Planning, (Washington: The Joint Staff, 1991) p. D-A-2. This manual states "the CJTF **should** establish a JCTB" While Joint Pub 3-55 (previously cited) states the JFC **may elect** to establish a JTCB.

19. Joint Pub 5-00.2, p. D-A-2.

20. Joint Pub 3-03, p. IV-2.

21. LtGen Charles E. Horner, "The Air Campaign" Military Review, (September 1991), p. 20.

22. Joint Pub 1-02, p. 197.

23. Joint Pub 3-03, p. GL-12.

24. Ibid., p. IV-3.

25. The Joint Staff, "Joint Pub 3-56.1: Command and Control for Joint Air Operations" (Washington: The Joint Staff) p. II-3. Of note, the Air Force is the lead agent for this Joint Publication.

26. Max Hastings, Overlord: D-Day and the Battle For Normandy, (New York: Simon and Schuster, 1984), p. 11.

27. Stephen Ambrose, Pegasus Bridge: 6 June 1944, (London: Allen and Unwin, 1984).

28. Directive 17 April 1944, Supreme Commander to U.S.S.T.A.F. and Bomber Command for support of OVERLORD during the preparatory period. Sir Charles Webster, The Strategic Air Offensive Against Germany 1939-1945 Vol. IV, (London: Her Majesty's Stationary Office, 1961) p. 167-168.

29. Russel Weigley, Eisenhower's Lieutenants, (Bloomington: Indiana University Press, 1981), p. 58-59.

30. William Momyer, Airpower in Three Wars, (Maxwell AFB: Air University Press, 1985) p. 49.

31. Charles Messenger, Bomber Harris, (London: Arms and Armor Press, 1984), p. 117.

32. Ibid., p. 163. See also Hastings, Overlord, p. 42.

33. Air Force Doctrine discusses the idea that aerospace forces can "make the most effective contribution when they are employed in parallel, or relatively independent aerospace campaigns" rather than a single theater integrated campaign. See Air Force Manual 1-1, Basic Aerospace Doctrine of the United States Air Force, (Washington: Headquarters United States Air Force, 1992), p. 9.

34. This separation of bomber forces from direct command of Leigh-Mallory stemmed from the distrust of Leigh-Mallory by both the American and British bomber forces following Leigh-Mallory's performance during the Battle of Britain. Leigh Mallory's appointment as air commander for the Normandy invasion was a political concession by Eisenhower, yielding to the pressure of Air Chief Marshall Portal. See Weigley, p. 59-60, and Momyer, p. 46.

35. Momyer, 49.

36. Weigley., p. 56-57.

37. Alan Levine, The Strategic Bombing of Germany, 1940-1945, (Westport: Praeger, 1992) p. 129.

38. Craven, p. 78.

39. Levine, p. 85-87. See also Weigley, 62-63, and Craven, 69-73.

40. Webster, Vol IV, p. 167-169.

41. Weigley, p. 62.

42. Ibid., p. 63-63.

43. Ibid., p. 63. See also Messenger, 164-165.

44. Craven, p. 83.

45. Levine, 162.

46. James Schnabel, Policy and Direction: The First Year, (Washington: The Office of the Chief of Military History, The United States Army, 1972), p. 47-49.

47. Robert Madden, A Thousand Points of Light: Integrating Operational Fires Into Campaign Design, (Fort Leavenworth: School of Advanced Military Studies, 1991), p. 20-21.

48. Momyer, p. 54.

49. Madden, p. 21.

50. Momyer, p. 54.

51. Ibid., p. 54.

52. Coordination Control was defined vaguely. The Nave interpreted it to as coordination control applied only to air operations it agreed to conduct within Korea. The Air Force interpreted it to be operational control over all Naval air operation in and arcund Korea. See Madden. p. 22.

53. Rick Atkinson, Crusade, (Boston: Houghton Mifflin and Company, 1993), p. 339.

54. From a 25 August CINCCENT Briefing. Of special significance this statement went on to mention the final phase, an "armored penetration and exploitation". This indicates that all along a ground operation was expected and raises questions as to why operational fires did not focus on ground campaign support until much later in the campaign. Department of Defense, Conduct of the Persian Gulf War, Washington D.C.: Department of Defense, 1992), p. 66.

55. The only coalition forces of significance involved in operational fires during DESERT STORM were the coalition air forces which were included in the CENTAF ATO, and the United Kingdom Special Operations Forces whose specific role remains classified.

56. Douglas Craft, An Operational Analysis of the Gulf War, (Carlisle PA: Strategic Studies Institute, 19920, p. 21-23.

57. Charles Horner, "The Air Campaign", Military Review, September 1991, p. 20-21.

58. Joint Pub 5-00.2.

59. Atkinson, p. 56-60.

60. Colonel Warden is one of the leading airpower theorist, and served as chief of the Checkmate planning cell. His views on the air campaign have caused debate within the Armed Forces and the Air Force itself. Colonel Warden believes it is possible to achieve strategic victory through air power alone, via an air campaign. His book The Air Campaign: Planning for Combat, was published two years prior to the Gulf War. It is evident that many of his theories were imbedded in the Checkmate briefing which became the foundation for the Air operation in DESERT STORM.

61. Conduct of Persian Gulf War, p. 90-96.

62. Ibid., 94.

63. Ibid., 94.

64. Ibid., 95.

65. Ibid., 95-98.

66. Paul Thompson, "Command, Control and Communications (C3) of Air Assets in Theater Warfare" Conventional Warfare September 1988. p 89-96.

67. General Charles Horner, "The Air Campaign", Military Review, (Fort Leavenworth: Command and General Staff College, September 1991), p. 20.

68. These nominations began in January at the beginning of the Air Campaign. "Both commanders attempted to shape the battlefield north to south" in support of the overall campaign. Scales, p. 180.

69. William Welch, "Notes From the BCE: Observations on Joint Combat Operations at Echelons Above Corps", Field Artillery Journal, June 1992, p. 16.

70. Ibid., 18.

71. Ibid, 20.

72. The CINC was briefed by ARCENT on 26 January, as to the perceived lack of JFACC support to Army targets. These complaints were "dismissed as a purely ARCENT view." Scales, 180.

73. Certain Victory, p.180.

74. Atkinson, p. 338-339. See also Scales, p. 180.

75. Scales, p. 180-181.

76. U.S. Air Force, JFACC Primer, (Washington: Headquarters, United States Air Force, 1992) p. 22.

77. Scales, p. 180-181.

78. The concept that the Air Force was reluctant to use ATACMS and that it was only used after numerous requests by the BCE comes from Dr. Richard Swain, Col, USA (Ret), and professor at the School of Advance Military Studies, Fort Leavenworth Kansas. Dr. Swain was the former Director, Combat Studies Institute and has done extensive research into Army operations during the Gulf War.

79. The writer served as J-2 Plans and Targeting Officer with SOCCENT during Operations DESERT SHIELD and DESERT STORM. In such a position was able to witness the full SOF targeting process including participation in the briefings to CINCCENT.

80. AFSC Pub 2, p. II-5-A-1.

81. This was the prevelent thought among both VII Corps and XVIII Corps during and following DESERT STORM. The subject remains a issue of controversary. See Scales, p. 174-175, and 369-370. Evidence of this controversary can also be found in various reports in the "Scales Archives" and also the "Tait Report".

82. AFSC Pub 2, p. II-1-7 - II-1-11.

83. For discussion of concepts of systemic integration and the associated problems of modern war see: Alvin and Heidi Toffler, War and Anti-War, (Boston: Little, Brown, and Company 1993)

84. This idea of mission type tasking rather than the current target nomination technique came from discussions at the BCTP, Battle Command Seminar, 15 April 1994, School of Advanced Military Studies, Fort Leavenworth Kansas.

BIBLIOGRAPHY

BOOKS

Appleman, Roy E., South to the Naktong, North to the Yalu: The United States Army in the Korean War Washington: Center of Military History, United States Army, 1986.

Atkinson, Rick, Crusade, Boston MA: Houghton Mifflin Company, 1993.

Blackwell, James, Thunder in the Desert, New York: Bantam Books, 1991.

Blair, Clay, The Forgotten War: America in Korea 1950-1953, New York: Doubleday, 1987.

Craft, Douglas W., An Operational Analysis of the Persian Gulf War, Carlisle PA: Strategic Studies Institute, 1992.

Craven, Wesley F., and Cate, James L., The Army Air Forces in World War II, Volume III, Chicago: University of Chicago Press, 1951.

Cushman, John H., Command and Control of Theater Forces: Adequacy, Cambridge MA: Center for Information Policy Research, 1983.

Cushman, John H., Command and Control of Theater Forces: Issues in Mideast Coalition Command, Cambridge MA: Center for Information Policy Research, 1991.

Cushman, John H., Organization and Operational Employment of Air Land Forces, Carlisle PA: U.S. Army War College, 1984.

Department of Defense, Conduct of The Persian Gulf War: Final Report to Congress, Washington D.C.: Department of Defense, 1992.

Gibson, James, The Perfect War, New York NY: Vintage Books, 1986.

Hastings, Max, Bomber Command, New York NY: Dial Dress/James Wade, 1979.

Hastings, Max, Overloard: D-Day and the Battle for Normandy, New York: Simon and Schuster, 1984.

Levine, Alan J., The Strategic Bombing of Germany 1940-1945, Westport CT: Praeger Publishers, 1992.

Messenger, Charles, Bomber Harris and the Strategic Bombing Offensive 1939-1945, London: Arms and Armour Press, 1984.

Momyer, William J., Air Power in Three Wars, Washington D.C.: Office of Air Force History, USAF, 1985.

Scales, Robert H., Certain Victory: The U.S. Army in the Gulf War, Washington D.C.: Office of the Chief Of Staff, United States Army, 1993.

Schnabel, James F., Policy and Direction: The First Year, The United States Army in the Korean War, Washington: Office of the Chief of Military History, United States Army, 1972.

Schwarzkoph, H. Norman, It Doesn't Take a Hero, New York NY: Bantam Books, 1992.

Shultz, Richard H., The Future of Airpower in the Aftermath of the Gulf War, Maxwell AFB AL: Air University Press, 1992.

Toffler, Alvin and Heidi, War and Anti-War, Boston MA: Little Brown and Company, 1993,

Van Creveld, Martin, Command in War, Cambridge MA: Harvard University Press: 1985.

War Department, The United States Strategic Bombing Surveys (Europe), (Reprint) Maxwell AFB AL: Air University Press, 1987.

Webster, Sir Charles, and Frankland, Noble, The Strategic Air Offensive Against Germany 1939-1945 Volume III, London: Her Majesty's Stationary Office, 1961.

Webster, Sir Charles, and Frankland, Noble, The Strategic Air Offensive Against Germany 1939-1945 Volume IV, London: Her Majesty's Stationary Office, 1961.

Weigley, Russell F., Eisenhower's Lieutenants, Bloomington IN: Indiana University Press, 1981.

MANUALS

Air Force Manual 1-1: Basic Aerospace Doctrine of the United States Air Force, Volume 1, Washington: Headquarters United States Air Force, 1992.

AFSC Pub 1: The Joint Staff Officers Guide 1991, Norfolk: Armed Forces Staff College, 1991.

AFSC Pub 2: Service Warfighting Philosophy and Synchronization of Joint Forces, Norfolk: Armed Forces Staff College, 1992.

FM 100-5: Operations, Washington D.C.: Headquarters, Department of the Army, 1993.

"FM 101-5: Command and Control for Commanders and Staff" (Final Draft), Washington D.C.: Headquarters, Department of the Army, 1993.

JFACC Primer, Deputy Chief of Staff, Plans and Operations, Headquarters United States Air Force, August 1992.

Joint Chiefs of Staff, A Doctrinal Statement of Selected Joint Operational Concepts, Washington D.C.: Joint Chiefs of Staff, 1992.

Joint Pub 1: Joint Warfare of the US Armed Forces, Washington D.C.: Joint Chiefs of Staff, 1991.

Joint Pub 3-03: Doctrine for Joint Interdiction Operations, Washington D.C.: Joint Chiefs of Staff, 1990.

Joint Pub 3-05.3: Joint Special Operations Operational Procedures, Washington D.C.: Joint Chiefs of Staff, 1993.

"Joint Pub 3-56: Command and Control Doctrine for Joint Operations" (Final Draft), Washington D.C.: Joint Chiefs of Staff, 1993.

"Joint Pub 3-56.1: Command and Control for Joint Air Operations" (Second Draft), Washington D.C., Joint Chiefs of Staff, 1993.

Joint Pub 3-55: Doctrine for Reconnaissance, Surveillance, and Target Acquisition Support for Joint Operations (RSTA), Washington D.C.: Joint Chiefs of Staff, 1993

PERIODICALS

Horner, Charles A. "The Air Campaign" Military Review, Fort Leavenworth: Command and General Staff College, September 1991.

Jeremiah, David, "What's Ahead for the Armed Forces" Joint Force Quarterly, Washington D.C.: National Defense University, Summer 1993.

Keaney, Thamas A. "Surveying Gulf War Air Power" Joint Force Quarterly, Washington D.C.: National Defense University, Autumn 1993.

McCarthy, James P., "Commanding Joint and Coalition Operations" Naval War College Review, Newport RI: Naval War College Press, 1993.

Record, Jeffery, "Why the Air War Worked" Armed Forces Journal International, April, 1991.

Strain, Frederick R., "The New Joint Warfare" Joint Force Quarterly, Washington D.C.: National Defense University, Autumn 1993.

Thompson, Paul J., "Command, Control, and Communications (C3) of Air Assets in Theater Warfare" Conventional Warfare, Maxwell AFB: Air Command and Staff College, September 1989.

Winnefeld, James A., and Johnson, Dana J., "Unity of Control: Joint Air Operations in the Gulf" Joint Force Quarterly, Washington D.C.: National Defense University, Summer 1993.

Yeosock, John J. "Army Operations in the Gulf Theater" Military Review, Fort Leavenworth: Command and General Staff College, September 1991.

MONOGRAPHS

Garrett, Jerry D., Strategic Airpower as Operational Fires: Integrating Long range Bombers into Campaign Design, Fort Leavenworth KS: School of Advanced Military Studies, 1991.

Madden, Robert W., A Thousand Points of Light: Integrating Operational Fires Into Campaign Design, Fort Leavenworth KS: School of Advanced Military Studies, 1991.

Weafer, Thomas W., The Challenge of Delivering Firepower at the Operational Level in AirLand Battle-Future, Fort Leavenworth KS: School of Advanced Military Studies, 1991.

UNPUBLISHED SOURCES

"The Robert H. Scales Collection" Historical records of Operations DESERT SHIELD and DESERT STORM. This extensive collection contains the material used to research and develop Certain Victory, and is located in

Combined Arms Command History Department, Building 50, Fort Leavenworth, Kansas.

Tait, Thomas, Maj Gen., "The Tait Report" After Action Report on Army Operations in Operation DESERT STORM, (Original unpublished version) Located in Historical Archives, Combined Arms Research Library, Fort Leavenworth Kansas.